

In the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-32. (Cancelled)

33. (New) A procedural map modification tool for use with a tree driven procedural map comprising a plurality of levels each having at least one node associated to at least one parameter, comprising :

- a node selection tool allowing the selection of at least one node of one level among the plurality of nodes of a map to be modified;
- a parameter setting tool allowing the modification of at least one parameter of the selected node;
- a processing unit, for the processing of said parameters to generate a map;
- operating instructions, for the operation of said tool and namely of the processing unit.

34. (New) The tool of claim 33, adapted for the modification of a tree driven procedural map based on the following equation:

$$\sum_{(j, k) \in T} F(2^j x - k)$$

wherein:

- F is a function $R^n \rightarrow R$
- x is a vector of the type (x_1, x_2, \dots, x_n) ;
- T is a tree comprising nodes (j, k) and wherein
- j indicates the current level, among a total potential number of levels j_{\max} ($j \in (0, 1, 2, \dots, j_{\max})$)
- k is a displacement vector for each node N and of the type (x_1, x_2, \dots, x_n)

35. **(New)** The tool of claim 34, being adapted for the modification of at least one parameter selected in the list comprising: the morphlet F, the maximum number of levels (jmax).

36. **(New)** The tool of claim 34, wherein said node selection tool is provided with a deepness selection unit allowing the selection of a given level (j) of said tree.

37. **(New)** The tool of claim 34, said node selection tool comprising a movable screen target, for the localisation and/or selection of a node-object.

38. **(New)** The tool of claim 37, wherein said movable screen target is operable with a computer cursor displacement device.

39. **(New)** The tool of claim 33, adapted for the modification of a tree driven procedural map based on the following equation:

$$\sum_{(j, k) \in T_{D,p}} 2^{-jH} F(2^j x - k) \xi_{(j, k)}$$

wherein:

- F is a function $R^n \rightarrow R$
- x is a vector of the type (x_1, x_2, \dots, x_n) ;
- $T_{D,p}$ represents a tree provided with an intermittency parameter (p), and comprising nodes (j, k) and a displacement value (D), wherein
 - j indicates the current level, among a total potential number of level jmax, $j \in (0, 1, 2, \dots, jmax)$;
 - k is a displacement vector for each node N and of the type (x_1, x_2, \dots, x_n) ;
 - H represents a Hurst parameter;
 - ξ represents a random number.

40. (New) The tool of claim 39, being adapted for the modification of at least one parameter selected in the list comprising: the function F , the current level (j), the maximum number of levels (j_{\max}), a Hurst parameter (H), a random value (ξ), an intermittency parameter (p), a displacement value (D).

41. (New) The tool of claim 39, wherein said node selection tool is provided with a deepness selection unit allowing the selection of a given level (j) of said tree.

42. (New) The tool of claim 39, said node selection tool comprising a movable screen target, for the localisation and/or selection of a node-object.

43. (New) The tool of claim 39, wherein said movable screen target is operable with a computer cursor displacement device.

44. (New) The tool of claim 39, said map modification tool being comprised in a tree driven procedural map generation tool.

45. (New) A procedural map generation tool, for the generation of tree driven procedural maps comprising a plurality of levels each having at least one node associated to at least one parameter, comprising:

- a map parameter input unit, for the input of the procedural map parameters;
- a map processing unit, for the processing of the parameters;
- operating instructions, for the operation of said tool and namely of the processing unit;
- a map modification tool, comprising:
- a node selection tool allowing the selection of at least one node of one level among the plurality of nodes of a map to be modified;
- a parameter modification tool allowing the modification of at least one parameter of the selected node.

46. **(New)** The procedural map generation tool of claim 45, further comprising an output for a map display unit, allowing the presentation of said map on a display.

47. **(New)** A process for modifying a procedural map for use with a tree driven procedural map comprising a plurality of levels each having at least one node associated to at least one parameter, comprising the steps of:

- providing a node selection tool allowing the selection of at least one node of one level among the plurality of nodes of a map to be modified;
- select a given node according to a given input;
- provide a parameter modification tool allowing the modification of at least one parameter of the selected node;
- modify said parameter of said node based on a given input;
- calculate a modified map based on the modified parameters.

48. **(New)** The process of claim 47, wherein the modified parameters are recursively affected to the children nodes of said selected node.

49. **(New)** The process of claim 47, wherein the tree driven procedural map is based on the following equation:

$$\sum_{(j, k) \in T} F(2^j x - k)$$

wherein:

- F is a function $R^n \rightarrow R$
- x is a vector of the type (x_1, x_2, \dots, x_n) ;
- T is a tree comprising nodes (j, k) and wherein
- j indicates the current level, among a total potential number of levels j_{\max} ($j \in (0, 1, 2, \dots, j_{\max})$)
- k is a displacement vector for each node N and of the type (x_1, x_2, \dots, x_n)

50. (New) The process of claim 49, wherein the modifiable parameters are selected in the list comprising: the morphlet F, the maximum number of levels (jmax).

51. (New) The process of claim 49, wherein said procedural map is a texture map.

52. (New) The process of claim 49, wherein said procedural map type is selected from the list comprising: displacement, bump, reflectivity, specularity, ambient color, diffuse color, specular color, transparency, color, shininess, self-emission, anisotropy, refractive index.

53. (New) The process of claim 49, wherein the tree comprises an intermittency parameter (p).

54. (New) The process of claim 49, further comprising a Hurst parameter (H).

55. (New) The process of claim 49, further comprising a random value (ξ).

56. (New) The process of claim 49, wherein the sum is a generalised sum.

57. (New) The process of claim 49, wherein the map is time dependant.

58. (New) The process of claim 47, wherein the tree driven procedural map is based on the following equation:

$$\sum_{(j, k) \in T_{D,p}} 2^{jH} F(2^j x - k) \xi_{(j, k)}$$

wherein:

- F is a function $R^n \rightarrow R$

- x is a vector of the type (x_1, x_2, \dots, x_n) ;
- $T_{D,p}$ represents a tree provided with an intermittency parameter (p), and comprising nodes (j, k) and a displacement value (D), wherein
 - j indicates the current level, among a total potential number of level j_{\max} ($j \in (0, 1, 2, \dots, j_{\max})$)
 - k is a displacement vector for each node N and of the type (x_1, x_2, \dots, x_n)
 - H represents a Hurst parameter;
 - ξ represents a random number.

59. **(New)** The process of claim 58, wherein the modifiable parameters are selected in the list comprising: the morphlet F , the maximum number of levels (j_{\max}), a Hurst parameter (H), a random number (ξ), an intermittency parameter (p), a displacement value (D).

60. **(New)** The process of claim 58, wherein said procedural map is a texture map.

61. **(New)** The process of claim 58, wherein said procedural map type is selected from the list comprising: displacement, bump, reflectivity, specularity, ambient color, diffuse color, specular color, transparency, color, shininess, self-emission, anisotropy, refractive index.

62. **(New)** The process of claim 58, wherein said sum is a generalised sum.

63. **(New)** The process of claim 58, wherein the map is time dependant.

64. **(New)** A software product readable by a computer and encoding instructions for executing a computer process for modifying a procedural map for use with a tree driven procedural map comprising a plurality of levels each having at least one node associated to at least one parameter, comprising the steps of:

- providing a node selection tool allowing the selection of at least one node of one level among the plurality of nodes of a map to be modified;
- select a given node according to a given input;
- provide a parameter modification tool allowing the modification of at least one parameter of the selected node;
- modify said parameter of said node based on a given input;
- calculate a modified map based on the modified parameters.